SA-WMS367

SERVICE MANUAL

US Model
Canadian Model

Ver 1.0 2004.03

• SA-WMS367 is the subwoofer section in SA-VE367T.

SPECIFICATIONS

For the US model
AUDIO POWER SPECIFICATIONS
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
with 6 ohm loads, from 20 - 200 Hz; rated 120 watts per channel minimum RMS power, with no more than 10% total harmonic distortion from 250 milliwatts to rated output.

Speaker system	Active subwoofer, magnetically shielded
Speaker unit	Woofer: 20 cm (8 in.)
Enclosure type	Acoustically loaded Bass Reflex
Reproduction frequency range	26 Hz - 200 Hz
Continuous RMS power output	135 W (6 ohms, 100 Hz, 10% THD)

Inputs
INPUT (input pin jack)
SPEAKER IN (input terminals)

Outputs
SPEAKER OUT (output terminals)

General

Power requirements	120 V AC, 60 Hz
Power consumptions	130 W 1 W (standby mode)
Dimensions (w/h/d)	Approx. 290 × 400 × 424 mm (11 1/8 × 15 1/4 × 16 3/8 in.)
Mass	Approx. 13 kg (28 lb 11 oz)

Design and specifications are subject to change without notice.

SUBWOOFER

9-877-698-01
2004C04-1
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Sony Corporation
Home Audio Company
Published by Sony Engineering Corporation

SONY®

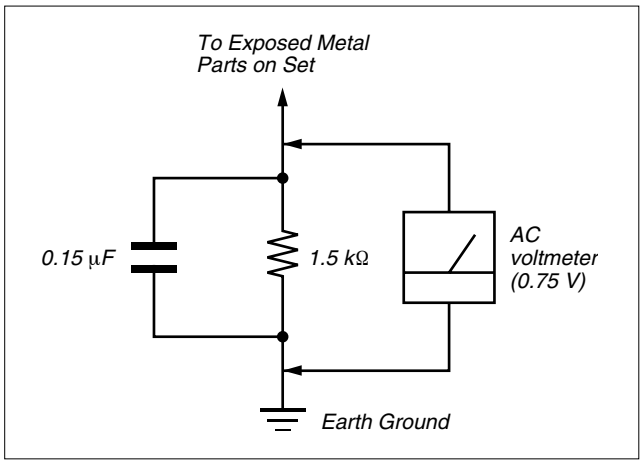
SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage.
Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers.). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



(Fig. A)

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● UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

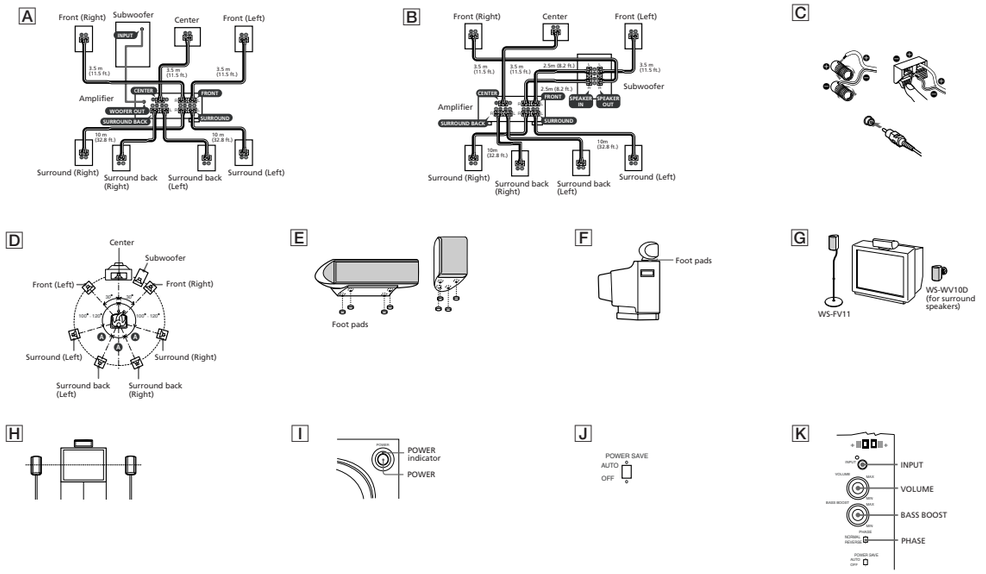
ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

LOCATION OF CONTROL



About this manual

The SA-VE367T is a 7.1 channel speaker system consisting of two front speakers, two surround speakers, two surround back speakers, one center speaker, and one subwoofer. It supports Sony Digital Cinema Sound, Dolby* Pro Logic, and Dolby Digital etc., and is thus geared towards the enjoyment of movies.

* "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

Precautions

On safety
- Before operating the system, be sure that the operating voltage of the system is identical with that of your local power supply.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.
- Unplug the system from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull the cord by grasping the plug. Never pull the cord itself.
- Should any liquid or solid object fall into the system, unplug the system's power cord and have the system checked by qualified personnel before operating it any further.
- AC power cord must be changed only at the qualified service shop.

On operation
- Do not drive the speaker system with a continuous wattage exceeding the maximum input power of the system.
- If the polarity of the speaker connections are not correct, the bass tones will be weak and the position of the various instruments obscure.
- Contact between bare speaker wires at the speaker terminals may result in a short-circuit.
- Before connecting, turn off the amplifier to avoid damaging the speaker system.
- The speaker grille cannot be removed. Do not attempt to remove the grille on the speaker system. If you try to remove it, you may damage the speaker.
- **The volume level should not be turned up to the point of distortion.**

If you encounter color irregularity on a nearby TV screen

This speaker system is magnetically shielded to allow it to be installed near a TV set. However, color irregularities may still be observed on certain types of TV sets.

If color irregularity is observed...

→ Turn off the TV set, then turn it on again after 15 to 30 minutes.

If color irregularity is observed again...

→ Place the speakers further away from the TV set.

If howling occurs

Reposition the speakers or turn down the volume on the amplifier.

On placement
- Do not set the speakers in an inclined position.
- Do not place the speakers in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Subject to vibrations
  - Subject to direct sunlight
- Use caution when placing the speaker on a specially treated (waxed, oiled, polished, etc.) floor, as staining or discoloration may result.

On cleaning

Clean the speaker cabinets with a soft cloth lightly moistened with a mild detergent solution or water. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

If you have any questions or problems concerning your speaker system, please consult your nearest Sony dealer.

Hooking up the system

Connect the speaker system to the speaker output terminals of an amplifier.
Make sure power to all components (included the subwoofer) is turned off before starting the hook-up.

Hookup A

Usually, connect by this method.
This configuration is used when the amplifier is connected to a DVD player, LD player, VCR or other video devices.

Hookup B

Try this configuration instead of "Hookup A" when there are no jacks on the amplifier for a subwoofer.
An optional specified speaker cord (2.5 m × 2)(8.2 ft.× 2) is necessary when connecting this way.

Notes (C)
- Make sure the plus (+) and the minus (–) terminals on the speakers are matched to the corresponding plus (+) and minus (–) terminals on the amplifier.
- Be sure to tighten the screws of the speaker terminals securely as loose screws may become a source of noise.
- Make sure all connections are firm. Contact between bare speaker wires at the speaker terminals may cause a short-circuit.
- For details regarding the connections on the amplifier side, refer to the manual that was provided with your amplifier.

Tip

Black or black striped wires are minus (–) in polarity, and should be connected to the minus (–) speaker terminals.

Positioning the speakers

Location of each speaker (D)

Each speaker should face the listening position. Better surround effect will result if all speakers are set at the same distance from the listening position.
Place the front speakers at a suitable distance to the left and right of the television.
Place the subwoofer on either side of the television.
Place the center speaker on the top-center of the TV set.
The placement of surround speakers greatly depends on the configuration of the room. The surround speakers may be placed slightly behind the listening position.
Place the surround back speakers behind the listening position. The angle A should be the same.

Setting the speakers

To prevent speaker vibration or movement while listening, attach the supplied foot pads to the bottom four corners of the center speaker, front speakers, surround speakers and surround back speakers (E).

Setting the center speaker (F)

Set the center speaker firmly on top of the TV set, making sure it is completely level.

Setting other speakers (G)

For greater flexibility in the positioning of the speakers, use the optional WS-FV11 or WS-WV10D speaker stand (available only in certain countries).

Tip

The height of the front speakers should be adjusted to about the center of the TV screen (H).

Setting the amplifier

When connecting to an amplifier with internal multi channel decoders (Dolby Digital, DTS**, etc.), you should use the setup menus for the amplifier to specify the parameters of your speaker system.
See the table below for the proper settings. For details on the setting procedure, refer to the manual that was provided with your amplifier.

When "Hookup A" is used (Speaker setup)

For	Set to
Front speakers	SMALL
Center speaker	SMALL
Surround speakers	SMALL
Subwoofer	ON (or YES)

When "Hookup B" is used (Speaker setup)

For	Set to
Front speakers	LARGE
Center speaker	SMALL
Surround speakers	SMALL
Subwoofer	OFF (or NO)

If you use the amplifier with adjustable crossover frequency, it is recommended to select 150 Hz (or close to this figure) as the crossover frequency for your front, center, and surround speakers.

** "DTS" and "DTS Digital Surround" are registered trademarks of Digital Theater Systems, Inc.

Listening to the sound (I)

First, turn down the volume on the amplifier. The volume should be set to minimum before you begin playing the program source.

1 Turn on the amplifier and select the program source.

2 Press POWER on the subwoofer.
The POWER indicator on the subwoofer lights up green.

3 Play the program source.

Power turns on and off automatically — *Auto power on/off function* (J)

When the *subwoofer* is on (i.e. the POWER indicator lights up green) and there is no signal input for a few minutes, the POWER indicator changes to red and the *subwoofer* enters power saving mode. While in this mode a signal is input to the subwoofer, the subwoofer automatically turns on (auto power on/off function).
To turn this feature off, slide the POWER SAVE switch on the rear panel to OFF.

Note

If you turn down the volume level of the amplifier too low, the auto power on/off function may activate, causing the subwoofer to enter power saving mode.

Adjusting the subwoofer (K)

1 Rotate VOLUME to adjust the volume.
Set the volume level to best suit your preference according to the program source.

2 Select the phase polarity.
Use the PHASE selector to select the phase polarity.

3 Set BASS-BOOST to MIN.
Rotate BASS-BOOST according to the output level that you prefer. Some material is recorded with strong emphasis on bass sounds, which may be accessive in some cases. If this happens, rotate BASS-BOOST towards minimum.

Notes
- Some amplifier functions for enhancing the sound may cause distortion in the subwoofer. If such distortion occurs, turn off those functions.
- To enjoy high-quality sound, do not turn the subwoofer volume too high.
- If the sound distorts when you turn on the bass reinforcement from your amplifier (such as DBFB, GROOVE, the graphic equalizer, etc.), turn down the bass reinforcement and adjust the level.
- Do not turn the LEVEL knob to maximum. Doing so may weaken the bass sound. Moreover, extraneous noise may be heard.
- Selecting NORMAL or REVERSE with the PHASE selector reverses the polarity and may provide better bass reproduction in certain listening environments (depending on the type of front speakers, the position of the subwoofer and the adjustment of the BASS-BOOST. It may also change the expansion and tightness of sound, and effect the feeling of the sound field. Select the setting that provides the sound you prefer when listening in your normal listening position.

Troubleshooting

Should you encounter a problem with your speaker system, check the following list and take the indicated measures. If the problem persists, consult your nearest Sony dealer.

There is no sound from the speaker system.
- Make sure all the connections have been correctly made.
- Make sure the volume on the amplifier has been turned up properly.
- Make sure the program source selector on the amplifier is set to the proper source.
- Check if headphones are connected. If they are, disconnect them.

There is distortion in the subwoofer sound output.
- Check if any sound-enhancing functions have been activated on the amplifier. If they have, turn them off.

There is hum or noise in the speaker output.
- Make sure all the connections have been correctly made.
- Make sure none of the audio components are positioned too close to the TV set.

The sound has suddenly stopped.
- Make sure all the connections have been correctly made. Contact between bare speaker wires at the speaker terminals may cause a short-circuit.

SECTION 2
DIAGRAMS

2-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For schematic diagrams.

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.

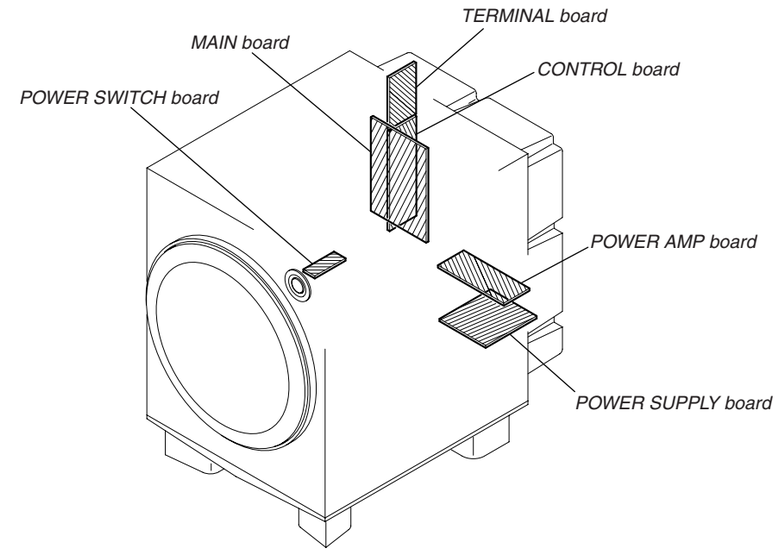
Note:	**Note:**
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : Power on
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : AUDIO
- Abbreviation
  CND : Canadian model.

For printed wiring boards.

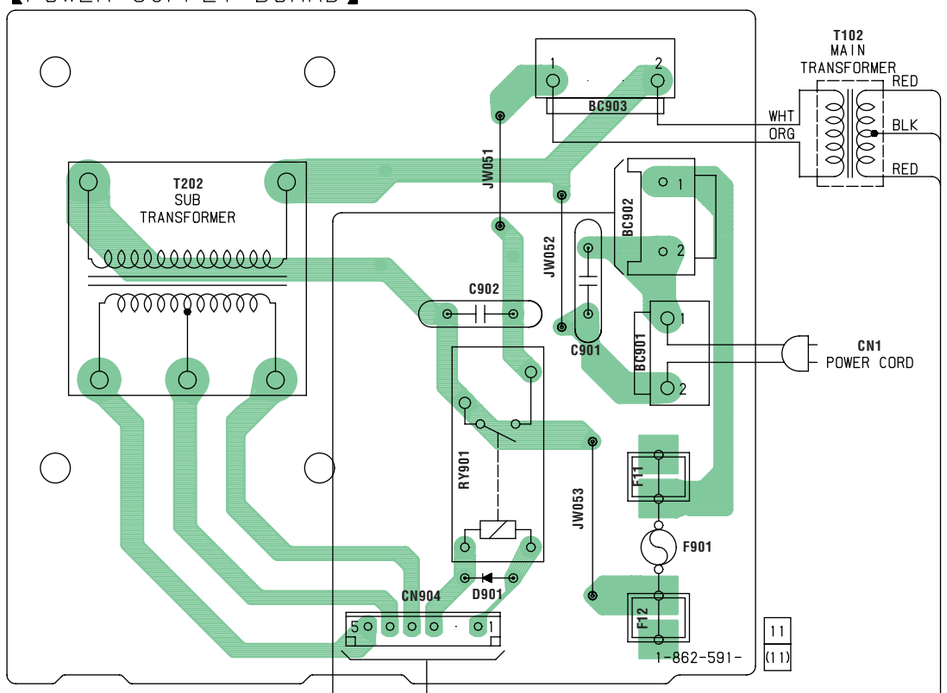
Note:
- o——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▬ : Pattern from the side which enables seeing.
- Abbreviation
  CND : Canadian model.

2-2. CIRCUIT BOARDS LOCATION

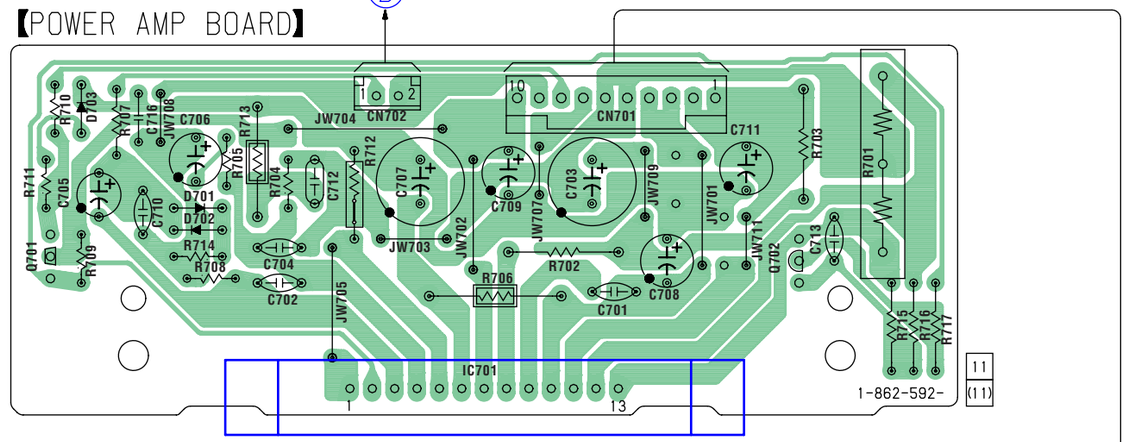


2-3. PRINTED WIRING BOARDS — MAIN SECTION — • Refer to page 3 for Circuit Boards Location. : Uses unleaded solder.

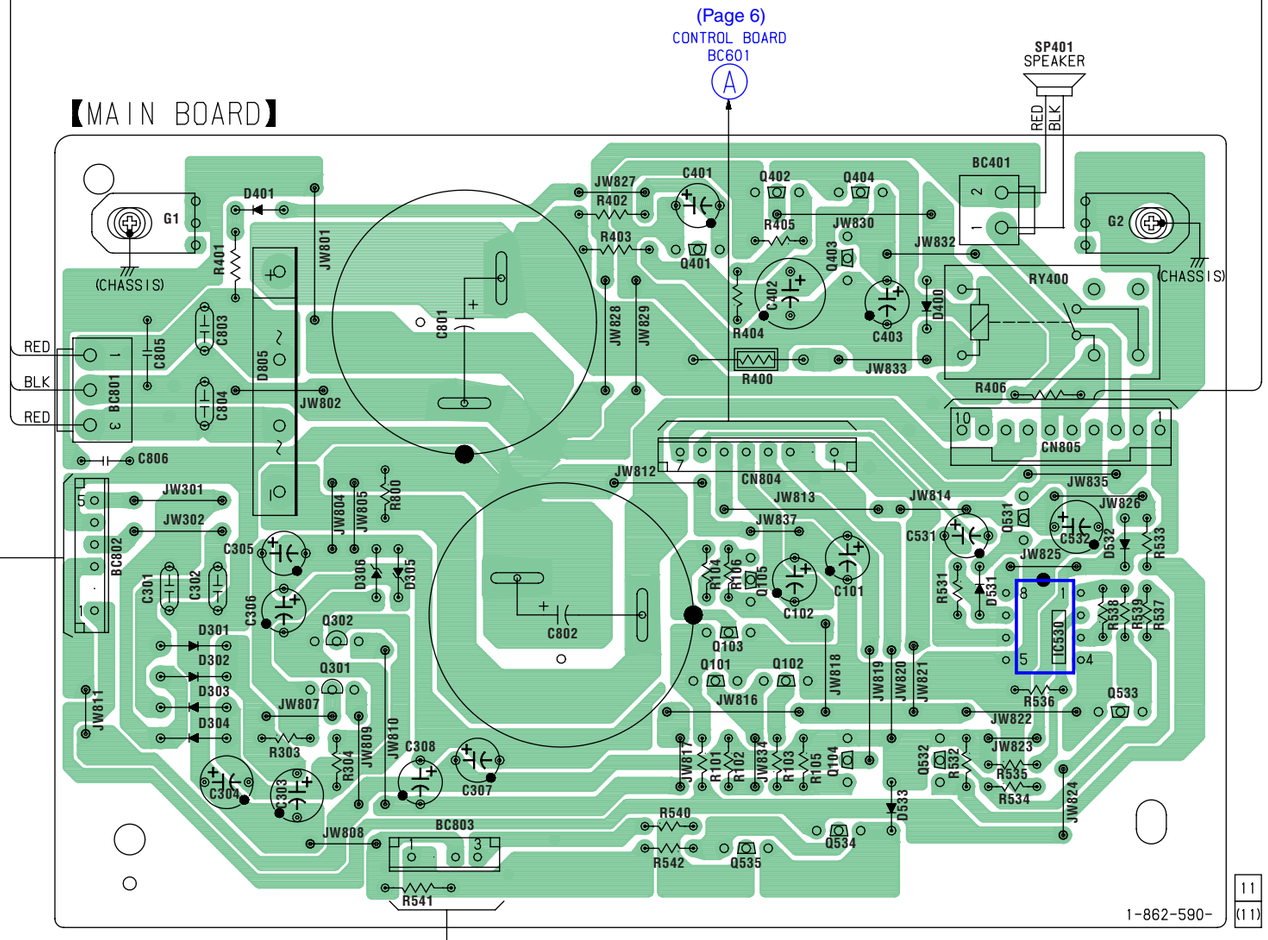
【POWER SUPPLY BOARD】



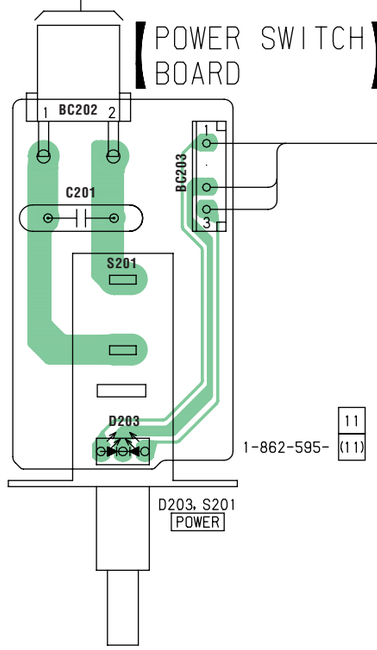
【POWER AMP BOARD】



【MAIN BOARD】



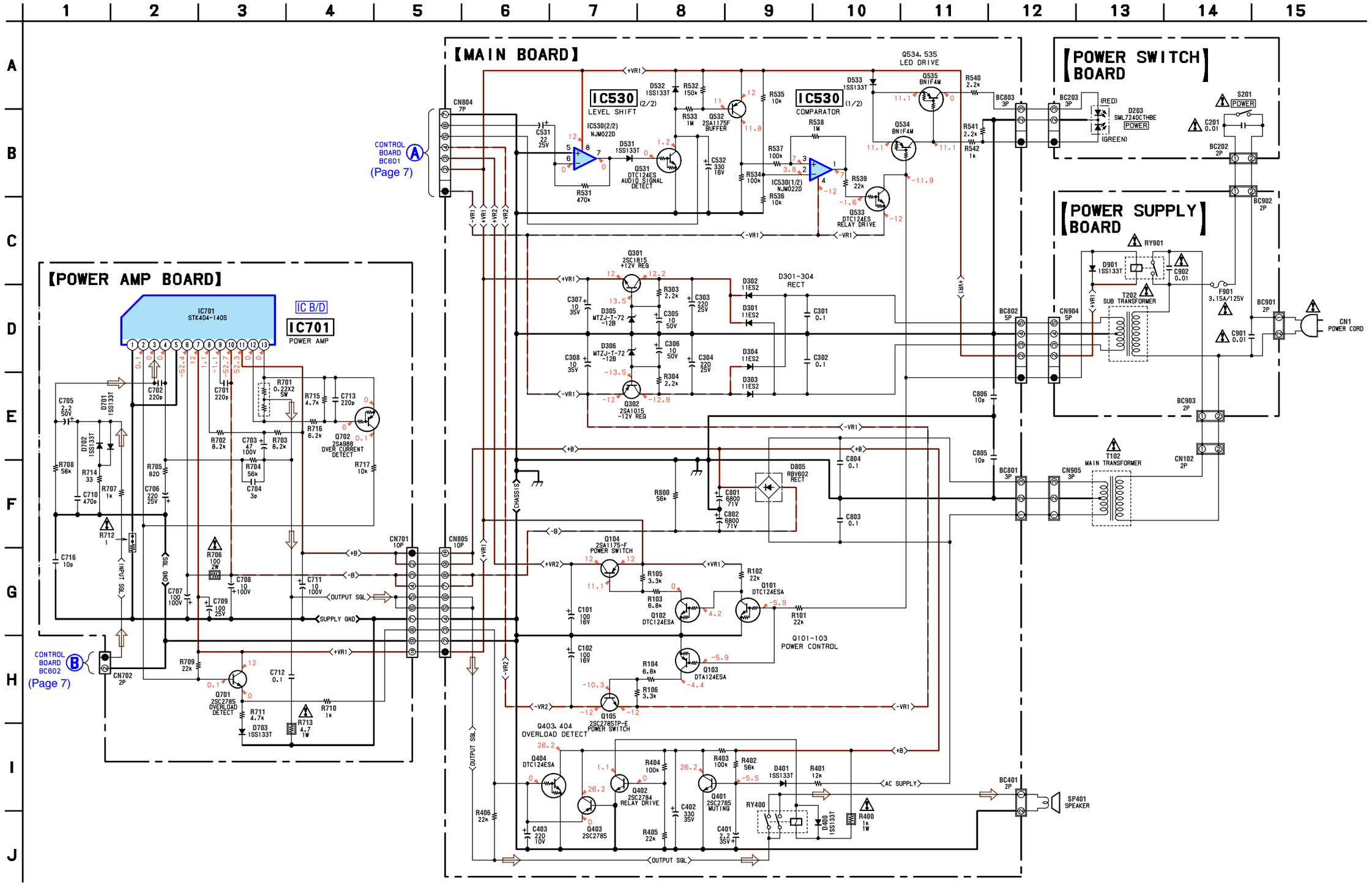
【POWER SWITCH BOARD】



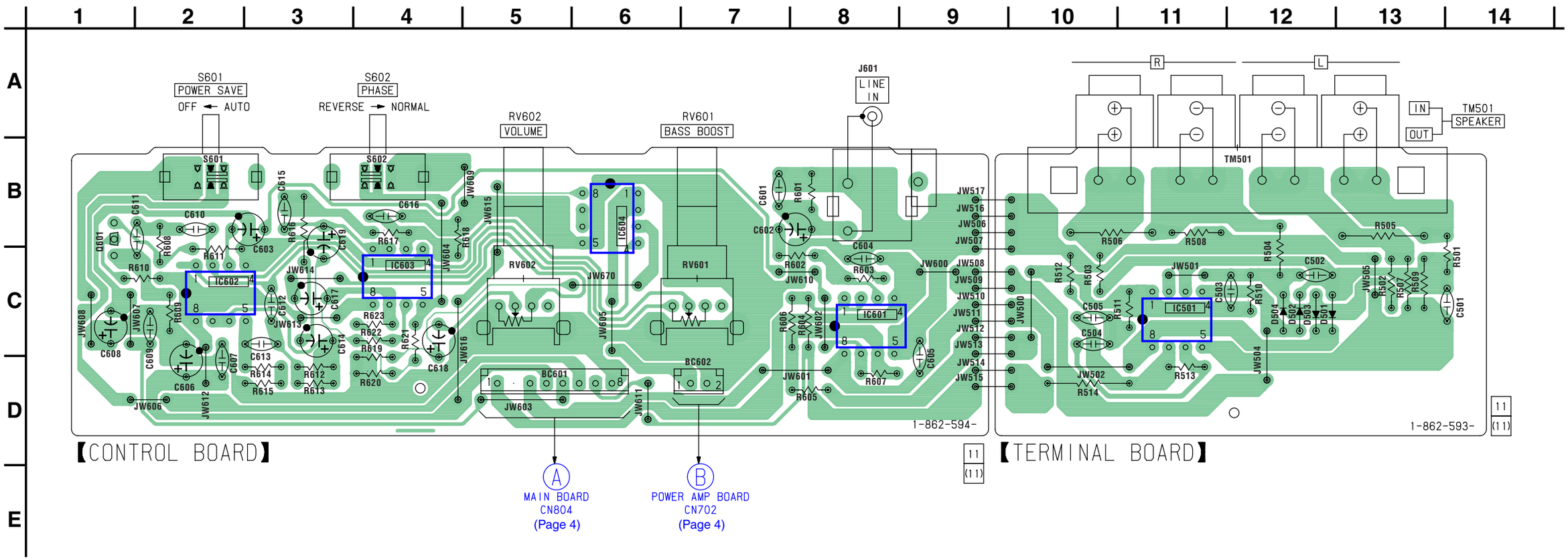
• **Semiconductor Location**

Ref. No.	Location
D203	I-3
D301	H-8
D302	H-8
D303	H-8
D304	I-8
D305	H-9
D306	H-9
D400	F-12
D401	E-8
D531	H-12
D532	G-13
D533	I-12
D701	B-9
D702	B-9
D703	B-8
D805	F-8
D901	E-4
IC530	H-13
IC701	C-10
Q101	H-11
Q102	H-11
Q103	H-11
Q104	I-12
Q105	H-11
Q301	H-9
Q302	H-9
Q401	F-11
Q402	E-11
Q403	F-12
Q404	E-12
Q531	G-13
Q532	I-12
Q533	H-13
Q534	I-12
Q535	I-11
Q701	C-8
Q702	C-12

2-4. SCHEMATIC DIAGRAM — MAIN SECTION — • Refer to page 8 for IC Block Diagram.



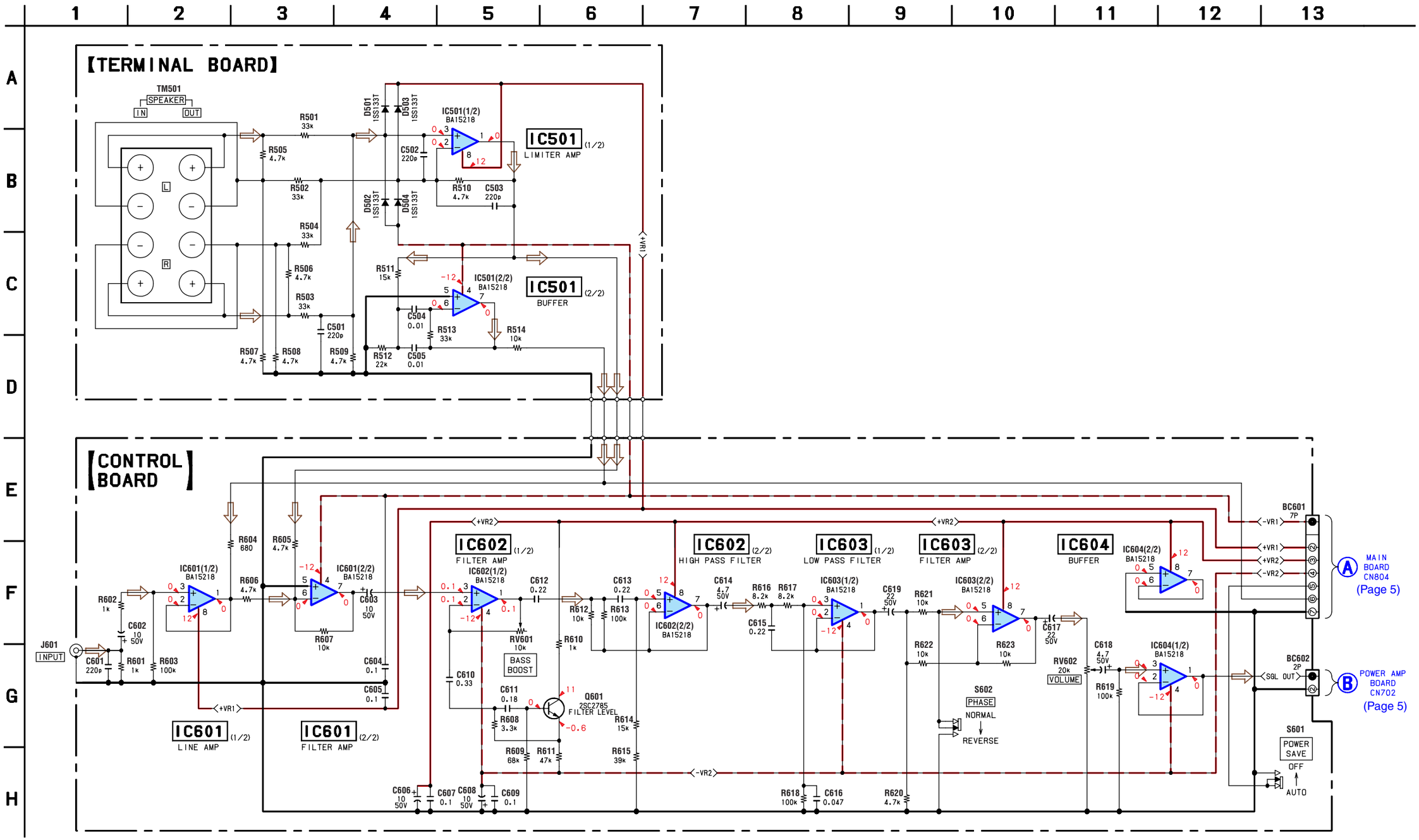
2-5. PRINTED WIRING BOARDS — CONTROL SECTION — • Refer to page 3 for Circuit Boards Location. : Uses unleaded solder.



- **Semiconductor Location**

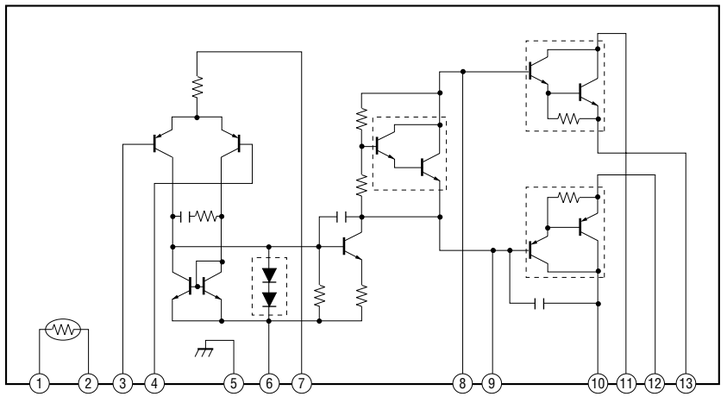
Ref. No.	Location
D501	C-12
D502	C-12
D503	C-12
D504	C-12
IC501	C-11
IC601	C-8
IC602	C-2
IC603	C-4
IC604	B-6
Q601	B-1

2-6. SCHEMATIC DIAGRAM — CONTROL SECTION —



2-7. IC BLOCK DIAGRAM

IC701 STK404-130S (POWER AMP Board)



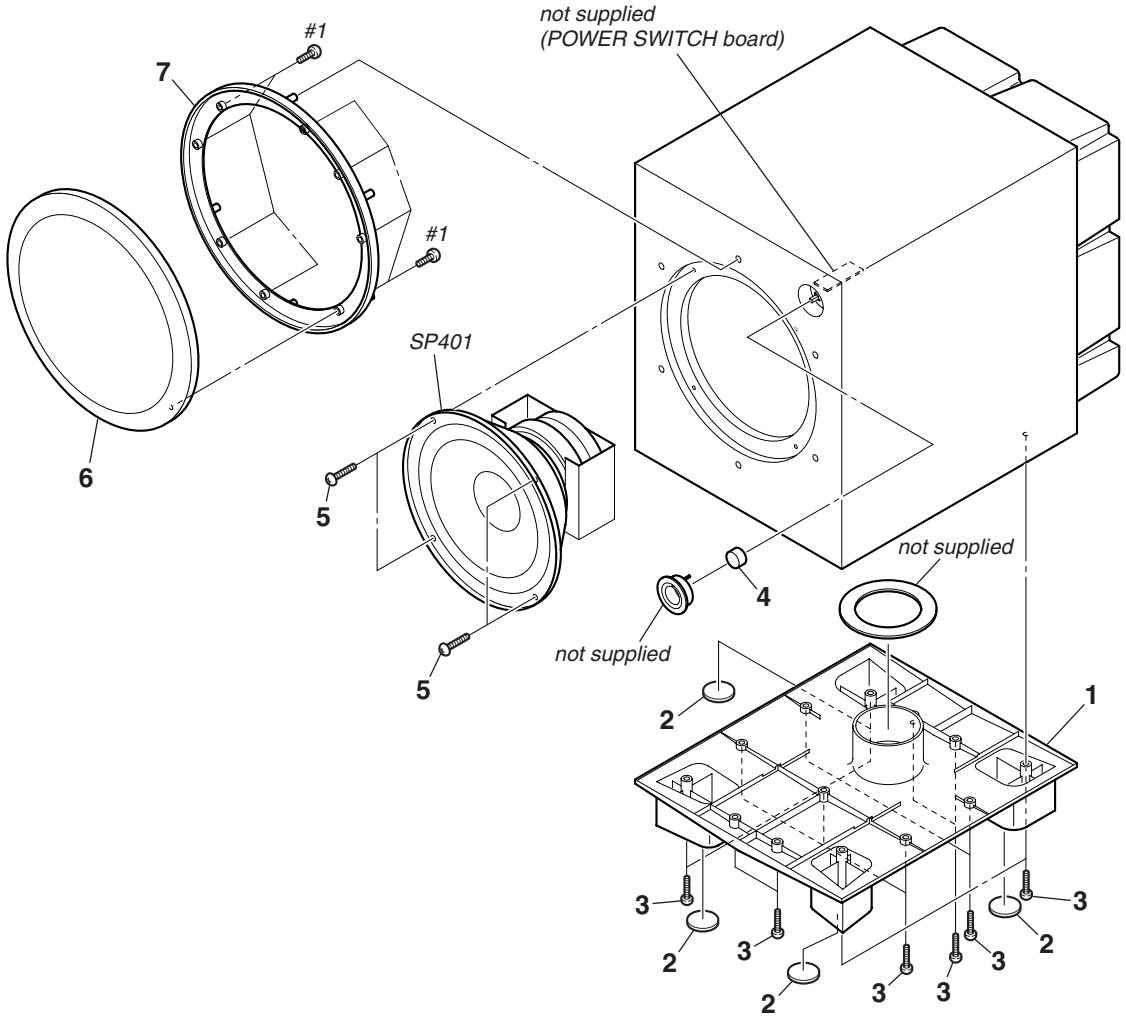
SECTION 3
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.
- Abbreviation
  CND : Canadian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

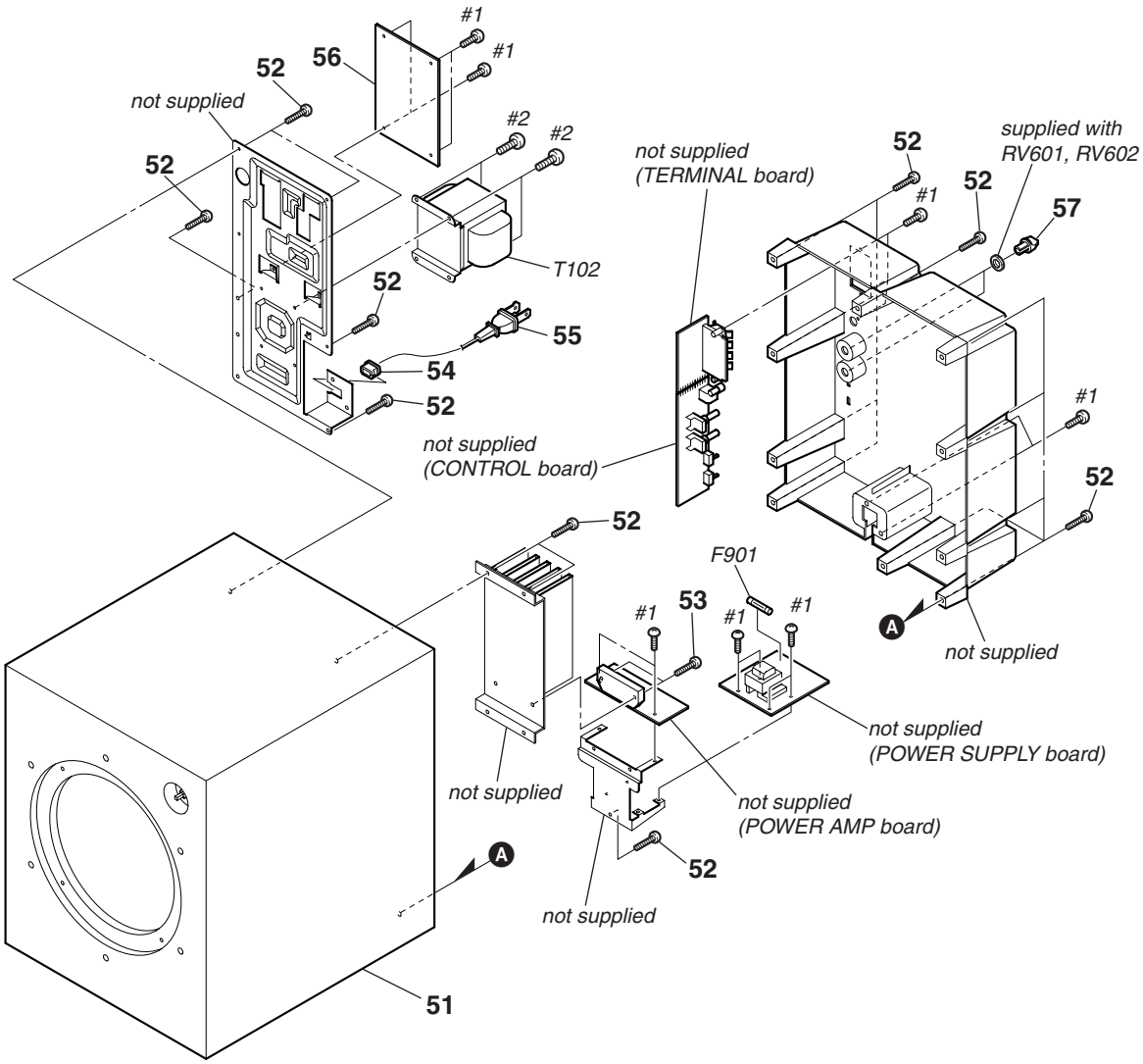
3-1. FRONT SECTION



Ref. No.	Part No.	Description	Remark
1	4-254-094-01	BOTTOM (PANEL)	
2	4-981-864-01	FOOT	
3	4-235-677-01	SCREW (4X20) (TYPE1), +BVTP	
4	4-253-282-01	PUSH (KNOB)	
5	4-874-614-02	SCREW (1) (3.5X14), TAPPING	

Ref. No.	Part No.	Description	Remark
6	4-254-093-01	GRILLE (FRAME)	
7	4-254-092-01	WOOFER (RING)	
SP401	1-825-151-21	SPEAKER (20cm) (WOOFER)	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	

3-2. REAR SECTION



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
51	A-4714-295-A	SPEAKER (CABINET) ASSY	
52	4-235-677-01	SCREW (4X20) (TYPE1), +BVTP	
53	3-905-609-31	SCREW (TRANSISTOR)	
* 54	3-703-244-00	BUSHING (2104), CORD	
⚠55	1-783-820-11	CORD, POWER	
56	A-4751-446-A	MAIN BOARD, COMPLETE	
57	4-999-482-81	KNOB (VOL)	
⚠F901	1-532-745-11	FUSE, GLASS TUBE (3.15A/125V)	
⚠T102	1-443-275-11	TRANSFORMER, POWER	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-880-09	SCREW +BVTT 4X6 (S)	

SECTION 4
ELECTRICAL PARTS LIST

CONTROL **MAIN**

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable

When indicating parts by reference number, please include the board.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH
- Abbreviation
  CND : Canadian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
		CONTROL BOARD			
		**********			
		< CONNECTOR >			
BC601	1-691-769-11	PLUG (MICRO CONNECTOR) 7P			
BC602	1-564-505-11	PLUG, CONNECTOR 2P			
		< CAPACITOR >			
C601	1-102-978-00	CERAMIC	220PF	5%	50V
C602	1-126-964-11	ELECT	10uF	20%	50V
C603	1-126-964-11	ELECT	10uF	20%	50V
C604	1-136-165-00	FILM	0.1uF	5%	50V
C605	1-136-165-00	FILM	0.1uF	5%	50V
C606	1-126-964-11	ELECT	10uF	20%	50V
C607	1-164-159-11	CERAMIC	0.1uF		50V
C608	1-126-964-11	ELECT	10uF	20%	50V
C609	1-164-159-11	CERAMIC	0.1uF		50V
C610	1-131-698-31	FILM	0.33uF	5%	50V
C611	1-131-695-11	FILM	0.18uF	5%	50V
C612	1-131-696-11	FILM	0.22uF	5%	50V
C613	1-131-696-11	FILM	0.22uF	5%	50V
C614	1-126-963-11	ELECT	4.7uF	20%	50V
C615	1-131-696-11	FILM	0.22uF	5%	50V
C616	1-131-688-31	FILM	0.047uF	5%	50V
C617	1-126-965-11	ELECT	22uF	20%	50V
C618	1-126-963-11	ELECT	4.7uF	20%	50V
C619	1-126-965-11	ELECT	22uF	20%	50V
		< IC >			
IC601	8-759-943-94	IC BA15218			
IC602	8-759-943-94	IC BA15218			
IC603	8-759-943-94	IC BA15218			
IC604	8-759-943-94	IC BA15218			
		< JACK >			
J601	1-815-025-11	JACK, PIN 1P (INPUT)			
		< TRANSISTOR >			
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		< RESISTOR >			
R601	1-247-831-11	CARBON	1K	5%	1/4W
R602	1-247-831-11	CARBON	1K	5%	1/4W
R603	1-247-879-11	CARBON	100K	5%	1/4W
R604	1-249-415-11	CARBON	680	5%	1/4W
R605	1-247-847-11	CARBON	4.7K	5%	1/4W
R606	1-247-847-11	CARBON	4.7K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-247-843-11	CARBON	3.3K	5%	1/4W
R609	1-249-439-11	CARBON	68K	5%	1/4W
R610	1-247-831-11	CARBON	1K	5%	1/4W
R611	1-247-871-11	CARBON	47K	5%	1/4W
R612	1-249-429-11	CARBON	10K	5%	1/4W
R613	1-247-879-11	CARBON	100K	5%	1/4W
R614	1-249-431-11	CARBON	15K	5%	1/4W
R615	1-249-436-11	CARBON	39K	5%	1/4W
R616	1-249-428-11	CARBON	8.2K	5%	1/4W
R617	1-249-428-11	CARBON	8.2K	5%	1/4W
R618	1-247-879-11	CARBON	100K	5%	1/4W
R619	1-247-879-11	CARBON	100K	5%	1/4W
R620	1-247-847-11	CARBON	4.7K	5%	1/4W
R621	1-249-429-11	CARBON	10K	5%	1/4W
R622	1-249-429-11	CARBON	10K	5%	1/4W
R623	1-249-429-11	CARBON	10K	5%	1/4W
		< VARIABLE RESISTOR >			
RV601	1-227-661-11	RES, VAR, CARBON 10K (BASS BOOST)			
RV602	1-225-826-11	RES, VAR, CARBON 20K (VOLUME)			
		< SWITCH >			
S601	1-786-490-11	SWITCH, SLIDE (POWER SAVE)			
S602	1-786-490-11	SWITCH, SLIDE (PHASE)			
**********					
	A-4751-446-A	MAIN BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
BC401	1-564-320-00	PIN, CONNECTOR (3.96mm PITCH) 2P			
* BC801	1-564-104-00	PIN, CONNECTOR (3.96mm PITCH) 3P			
BC802	1-691-767-11	PLUG (MICRO CONNECTOR) 5P			
BC803	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
		< CAPACITOR >			
C101	1-126-933-11	ELECT	100uF	20%	16V
C102	1-126-933-11	ELECT	100uF	20%	16V
C301	1-136-165-00	FILM	0.1uF	5%	50V
C302	1-136-165-00	FILM	0.1uF	5%	50V
C303	1-104-666-11	ELECT	220uF	20%	25V

MAIN POWER AMP

Ref. No.	Part No.	Description			Remark
C304	1-104-666-11	ELECT	220uF	20%	25V
C305	1-126-964-11	ELECT	10uF	20%	50V
C306	1-126-964-11	ELECT	10uF	20%	50V
C307	1-124-247-11	ELECT	10uF	20%	35V
C308	1-124-247-11	ELECT	10uF	20%	35V
C401	1-124-257-00	ELECT	2.2uF	20%	35V
C402	1-126-950-11	ELECT	330uF	20%	35V
C403	1-126-923-11	ELECT	220uF	20%	10V
C531	1-104-662-11	ELECT	22uF	20%	25V
C532	1-104-661-11	ELECT	330uF	20%	16V
C801	1-165-946-11	ELECT	6800uF	20%	71V
C802	1-165-946-11	ELECT	6800uF	20%	71V
C803	1-130-777-00	FILM	0.1uF	5%	50V
C804	1-130-777-00	FILM	0.1uF	5%	50V
C805	1-162-199-31	CERAMIC	10PF	5%	50V
C806	1-162-199-31	CERAMIC	10PF	5%	50V
		< DIODE >			
D301	8-719-024-99	DIODE	11ES2-NTA2B		
D302	8-719-024-99	DIODE	11ES2-NTA2B		
D303	8-719-024-99	DIODE	11ES2-NTA2B		
D304	8-719-024-99	DIODE	11ES2-NTA2B		
D305	8-719-110-31	DIODE	RD12ESB2		
D306	8-719-110-31	DIODE	RD12ESB2		
D400	8-719-991-33	DIODE	1SS133T-77		
D401	8-719-991-33	DIODE	1SS133T-77		
D531	8-719-991-33	DIODE	1SS133T-77		
D532	8-719-991-33	DIODE	1SS133T-77		
D533	8-719-991-33	DIODE	1SS133T-77		
D805	8-719-072-05	DIODE	RBV-602LF-A		
		< GROUND TERMINAL >			
G1	1-537-738-21	TERMINAL, GROUND			
G2	1-537-738-21	TERMINAL, GROUND			
		< IC >			
IC530	6-704-502-01	IC	NJM022D		
		< TRANSISTOR >			
Q101	8-729-029-86	TRANSISTOR	DTC124ESA		
Q102	8-729-029-86	TRANSISTOR	DTC124ESA		
Q103	8-729-029-40	TRANSISTOR	DTA124ESA		
Q104	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q105	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR		
Q302	8-729-201-53	TRANSISTOR	2SA1015-GR		
Q401	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q402	8-729-178-42	TRANSISTOR	2SC2784-F		
Q403	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q404	8-729-029-86	TRANSISTOR	DTC124ESA		
Q531	8-729-029-86	TRANSISTOR	DTC124ESA		
Q532	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q533	8-729-029-86	TRANSISTOR	DTC124ESA		
Q534	8-729-900-63	TRANSISTOR	DTA124ES		
Q535	8-729-900-63	TRANSISTOR	DTA124ES		

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R101	1-247-863-11	CARBON	22K	5%	1/4W
R102	1-247-863-11	CARBON	22K	5%	1/4W
R103	1-249-427-11	CARBON	6.8K	5%	1/4W
R104	1-249-427-11	CARBON	6.8K	5%	1/4W
R105	1-247-843-11	CARBON	3.3K	5%	1/4W
R106	1-247-843-11	CARBON	3.3K	5%	1/4W
R303	1-249-421-11	CARBON	2.2K	5%	1/4W
R304	1-249-421-11	CARBON	2.2K	5%	1/4W
⚠R400	1-215-869-11	METAL OXIDE	1K	5%	1W F
R401	1-249-430-11	CARBON	12K	5%	1/4W
R402	1-247-873-11	CARBON	56K	5%	1/4W
R403	1-247-879-11	CARBON	100K	5%	1/4W
R404	1-247-879-11	CARBON	100K	5%	1/4W
R405	1-247-863-11	CARBON	22K	5%	1/4W
R406	1-247-863-11	CARBON	22K	5%	1/4W
R531	1-247-895-00	CARBON	470K	5%	1/4W
R532	1-247-883-00	CARBON	150K	5%	1/4W
R533	1-247-903-00	CARBON	1M	5%	1/4W
R534	1-247-879-11	CARBON	100K	5%	1/4W
R535	1-249-429-11	CARBON	10K	5%	1/4W
R536	1-249-429-11	CARBON	10K	5%	1/4W
R537	1-247-879-11	CARBON	100K	5%	1/4W
R538	1-247-903-00	CARBON	1M	5%	1/4W
R539	1-247-863-11	CARBON	22K	5%	1/4W
R540	1-249-421-11	CARBON	2.2K	5%	1/4W
R541	1-249-421-11	CARBON	2.2K	5%	1/4W
R542	1-247-831-11	CARBON	1K	5%	1/4W
R800	1-247-873-11	CARBON	56K	5%	1/4W
		< RELAY >			
RY400	1-515-920-11	RELAY (24V)			

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POWER AMP BOARD

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		< CAPACITOR >			
C701	1-102-978-00	CERAMIC	220PF	5%	50V
C702	1-102-978-00	CERAMIC	220PF	5%	50V
C703	1-128-562-11	ELECT	47uF	20%	100V
C704	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C705	1-126-961-11	ELECT	2.2uF	20%	50V
C706	1-104-666-11	ELECT	220uF	20%	25V
C707	1-128-563-11	ELECT	100uF	20%	100V
C708	1-128-582-11	ELECT	10uF	20%	100V
C709	1-104-665-11	ELECT	100uF	20%	25V
C710	1-102-824-00	CERAMIC	470PF	5%	50V
C711	1-128-582-11	ELECT	10uF	20%	100V
C712	1-136-165-00	FILM	0.1uF	5%	50V
C713	1-102-978-00	CERAMIC	220PF	5%	50V
C716	1-162-199-31	CERAMIC	10PF	5%	50V
		< CONNECTOR >			
CN701	1-580-376-11	PLUG (WITH CONNECTOR) (L) 10P			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

POWER AMP | POWER SUPPLY | POWER SWITCH | TERMINAL

Ref. No.	Part No.	Description				Remark
		< DIODE >				
D701	8-719-991-33	DIODE 1SS133T-77				
D702	8-719-991-33	DIODE 1SS133T-77				
D703	8-719-991-33	DIODE 1SS133T-77				
		< IC >				
IC701	6-600-182-01	IC STK404-140S				
		< TRANSISTOR >				
Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q702	8-729-140-82	TRANSISTOR 2SA988-PAFAEA				
		< RESISTOR >				
R701	1-234-182-11	ENCAPSULATED COMPONENT 0.22X2 5W				
R702	1-260-110-11	CARBON	8.2K	5%	1/2W	
R703	1-260-110-11	CARBON	8.2K	5%	1/2W	
R704	1-247-873-11	CARBON	56K	5%	1/4W	
R705	1-249-416-11	CARBON	820	5%	1/4W	
⚠R706	1-215-886-11	METAL OXIDE	100	5%	2W	F
R707	1-247-831-11	CARBON	1K	5%	1/4W	
R708	1-247-873-11	CARBON	56K	5%	1/4W	
R709	1-247-863-11	CARBON	22K	5%	1/4W	
R710	1-247-831-11	CARBON	1K	5%	1/4W	
R711	1-247-847-11	CARBON	4.7K	5%	1/4W	
⚠R712	1-202-972-61	FUSIBLE	1	5%	1/4W	F
⚠R713	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R714	1-249-399-11	CARBON	33	5%	1/4W	
R715	1-247-847-11	CARBON	4.7K	5%	1/4W	
R716	1-247-850-11	CARBON	6.2K	5%	1/4W	
R717	1-249-429-11	CARBON	10K	5%	1/4W	
**********						
		POWER SUPPLY BOARD				
		**********				
	1-533-217-31	HOLDER, FUSE				
		< CONNECTOR >				
BC901	1-564-321-00	PIN, CONNECTOR (3.96mm PITCH) 2P				
* BC902	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P				
* BC903	1-565-792-11	PIN, CONNECTOR (3.96mm PITCH) 2P				
		< CAPACITOR >				
⚠C901	1-113-925-11	CERAMIC	0.01uF	20%	250V	
⚠C902	1-113-925-11	CERAMIC	0.01uF	20%	250V	
		< DIODE >				
D901	8-719-991-33	DIODE 1SS133T-77				
		< RELAY >				
⚠RY901	1-755-458-11	RELAY				
		< TRANSFORMER >				
⚠T202	1-443-348-11	TRANSFORMER, POWER				
**********						

Ref. No.	Part No.	Description				Remark
		POWER SWITCH BOARD				
		**********				
		< CONNECTOR >				
BC202	1-564-321-00	PIN, CONNECTOR (3.96mm PITCH) 2P				
BC203	1-691-765-11	PLUG (MICRO CONNECTOR) 3P				
		< CAPACITOR >				
⚠C201	1-113-925-11	CERAMIC	0.01uF	20%	250V	
		< DIODE >				
D203	8-719-064-11	LED SPR-325MVW (POWER)				
		< SWITCH >				
⚠S201	1-554-920-11	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)				
**********						
		TERMINAL BOARD				
		**********				
		< CAPACITOR >				
C501	1-102-978-00	CERAMIC	220PF	5%	50V	
C502	1-102-978-00	CERAMIC	220PF	5%	50V	
C503	1-102-978-00	CERAMIC	220PF	5%	50V	
C504	1-131-679-31	FILM	0.01uF	5%	50V	
C505	1-131-679-31	FILM	0.01uF	5%	50V	
		< DIODE >				
D501	8-719-991-33	DIODE 1SS133T-77				
D502	8-719-991-33	DIODE 1SS133T-77				
D503	8-719-991-33	DIODE 1SS133T-77				
D504	8-719-991-33	DIODE 1SS133T-77				
		< IC >				
IC501	8-759-943-94	IC BA15218				
		< RESISTOR >				
R501	1-249-435-11	CARBON	33K	5%	1/4W	
R502	1-249-435-11	CARBON	33K	5%	1/4W	
R503	1-249-435-11	CARBON	33K	5%	1/4W	
R504	1-249-435-11	CARBON	33K	5%	1/4W	
R505	1-260-107-11	CARBON	4.7K	5%	1/2W	
R506	1-260-107-11	CARBON	4.7K	5%	1/2W	
R507	1-247-847-11	CARBON	4.7K	5%	1/4W	
R508	1-247-847-11	CARBON	4.7K	5%	1/4W	
R509	1-247-847-11	CARBON	4.7K	5%	1/4W	
R510	1-247-847-11	CARBON	4.7K	5%	1/4W	
R511	1-249-431-11	CARBON	15K	5%	1/4W	
R512	1-247-863-11	CARBON	22K	5%	1/4W	
R513	1-249-435-11	CARBON	33K	5%	1/4W	
R514	1-249-429-11	CARBON	10K	5%	1/4W	
		< TERMINAL BOARD >				
TM501	1-537-376-11	TERMINAL BOARD (SPEAKER)				
**********						

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
⚠55	1-783-820-11	CORD, POWER	
⚠F901	1-532-745-11	FUSE, GLASS TUBE (3.15A/125V)	
SP401	1-825-151-21	SPEAKER (20cm) (WOOFER)	
⚠T102	1-443-275-11	TRANSFORMER, POWER	

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MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
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Ver.	Date	Description of Revision
1.0	2004.03	New